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09/752,813	12/29/2000	Richard S. Jensen	P9955	1535

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EDWIN H. TAYOR  
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP  
12400 WILSHIRE BOULEVARD, SEVENTH FLOOR  
LOS ANGELES, CA 90025

EXAMINER

PHU, PHUONG M

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/752,813

Applicant(s)

JENSEN ET AL.

Examiner

Phuong Phu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5,8-16 and 18-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,8-16,18-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This Office Action is responsive to the RCE filed on 8/18/04.

#### *Specification*

2. The disclosure is objected to because of the following reasons:

-Regarding to the description for figure 14, the specification is lack of functional descriptions for the current source ( $\rightarrow$ ) in contributing to the functional operation of conversion circuit (200), shown in the figure, and in the relationship with input(s) and output(s) of the conversion circuit. Also, it is unclear in the specification whether the signal coming out of the dual port (-,+) forms "a single differential load current and output voltage" as described on page 19, lines 18 and 19.

-With respect to figures 5 and 14, figure 5 describes "an edge-based receiver" receiving differential signals (D+, D-) at its inputs, while figure 14 describes the "conversion circuit" for providing or deriving said differential signals from its output signals. The specification is lack of information for figure 4 to show where the output of the conversion circuit is outputted to be coupled with the "edge-based receiver" to provide or derive said signal differential signals for the "edge-based receiver". The specification also is lack of information showing how the derivation of differential signals is formed in the relationship with the output of the "conversion circuit".

-Regarding to figure 16, the specification describes "B and B# come from the receiver side" on lines 13 and 14. As shown in the figure, "B and B#" does not come from receiver "405" and it is unclear which source said "B and B#" are from and how said "B and B#" are formed.

Appropriate correction is required.

***Claim Objections***

3. Claim 10 is objected to because of the following informalities: claim 10 recites the limitation "The apparatus of claim 6" on line 1. Note that claim 6 was canceled by the Amendment filed on 8/18/04. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 9 and 18-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 9 recites the limitation "said plurality of differential voltages from a transmitter and a plurality of differential voltages from a receiver". It is unclear whether "a transmitter" refers to "a transmitter" previously recited in claim 8, and whether "a receiver" refers to "an edge-based receiver" previously recited in claim 8. If so, they are suggested to be changed to --said transmitter-- and --said edge-based receiver--, respectively; otherwise, said limitation is not disclosed in the specification.

Claim 18 recites the limitation "a plurality of current sources ... a single differential load". It is unclear whether "a plurality of current sources" recited in the limitation refers to "a plurality of current sources" previously recited in claim 11, whether "a plurality of differential

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voltages” recited in the limitation refers to “a plurality of differential voltages” previously recited in claim 11, whether “plurality of differential currents” recited in the limitation refers to “plurality of differential currents” previously recited in claim 11, whether “plurality of resistors” recited in the limitation refers to “plurality of resistors” previously recited in claim 11, and whether “a single differential load” recited in the limitation refers to “a single differential load”. Correction is required; otherwise, said limitation is not disclosed in the specification.

Claim 19 recites the limitation “an edge-base receiver” on line 6, it is unclear whether this limitation refers to “an edge-base receiver” previously recited on line 2. Correction is required; otherwise, said limitation is not disclosed in the specification.

Claim 20 recites the limitations “a transmitter” and “an edge-based receiver”. It is unclear whether these limitations refer to “a transmitter” and “an edge-based receiver”, previously recited in claim 19. Correction is required; otherwise, said limitations are not disclosed in the specification.

Claim 22 recites the limitation “an edge-base receiver” on line 7, it is unclear whether this limitation refers to “an edge-base receiver” previously recited on lines 2-3. Correction is required; otherwise, said limitation is not disclosed in the specification.

Claim 23 recites the limitations “a transmitter” and “an edge-based receiver”. It is unclear whether these limitations refer to “a transmitter” and “an edge-based receiver”, previously recited in claim 22. Correction is required; otherwise, said limitations are not disclosed in the specification.

Claims (if any) dependent on above claims are therefore also rejected with the above reasons.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-5, 8-16 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

-Claim 1 omits functional/structural/connectional interrelationship of elements “edge processor”, “communication circuit”, “plurality of current source” and “resistor” to one another in order to make the claimed apparatus as a complete operative and connective system in such a way that said omission renders the claim vagueness as following:

it is unclear about the interrelationship of “communications” (recited on line 4) with “decisions” and/or “received data stream”;

it is unclear about the interrelationship of “different pair” and “different voltage” (on line 7) to each other and to “communications”, “decisions” and/or “received data stream”; and

it is unclear about the interrelationship of “resistor” (on line 8) with “different voltage” and/or “differential current” (on lines 7 and 8).

-Claim 8 omits functional/structural/connectional interrelationship of elements “plural of current sources”, and “plurality of resistors” with element “transmitter” in order to make the claimed apparatus as a complete operative and connective system.

-Claim 11 omits functional/structural/connectional interrelationship of elements “edge based receiver”, “conversion circuit”, “current sources” and “resistors” to one another to make

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the claimed system as a complete operative and connective system in such a way that said omission renders the claim vagueness as following:

it is unclear about the interrelationship of “signaling between the transmitter and the receiver”, “current mode driver”, “high impedance output”, “dual end termination” and “edge processor” to one another; and

it is unclear about the interrelationship of “plurality of differential voltages” with “conversion circuit”.

Claims (if any) dependent on above claims are therefore also rejected with the above reasons.

8. Claims 19-21 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01.

Claim 19 omits steps showing interrelationship of “a transmitter” with other steps recited in the claim.

Claim 19 omits steps showing whether “an edge-based receiver” recited on line 6 refers to “an edge-based receiver” previously recited on line 2.

Claim 19 omits steps showing interrelationship of step “summing the plurality of differential currents to yield a single differential load” with element “an edge based receiver” recited in step “coupling the plurality of differential currents to an edge-based receiver”.

Claim 21 omits steps showing interrelationship of “an edge processor” with other steps recited in claims 19-21 and with “transmitter” recited in claim 19.

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Claim 22 omits steps showing interrelationship of “a transmitter” with other steps recited in the claim.

Claim 22 omits steps showing whether “an edge-based receiver” recited on line 7 refers to “an edge-based receiver” previously recited on lines 2-3.

Claim 22 omits steps showing interrelationship of step “summing the plurality of differential currents to yield a single differential load” with element “an edge based receiver” recited in step “coupling the plurality of differential currents to an edge-based receiver”.

Claim 24 omits steps showing interrelationship of “an edge processor” with other steps recited in claims 22-24 and with “transmitter” recited in claim 22.

Claims (if any) dependent on above claims are therefore also rejected with the above reasons.

### ***Response to Arguments***

9. Applicant's arguments filed on 8/18/04 have been fully considered but they are not, in part, persuasive.

-Previous objection to claim 1 is now withdrawn since the claim was amended to overcome the objection.

-Previous objection to claim 10, under Double Patenting, is now withdrawn since claim 7 was canceled by the applicant.

-Previous rejection, under 35 USC 112, second paragraph, to claim 10 as being lack of antecedent basis, is now withdrawn since the claim was amended to overcome the objection.

-Applicant's arguments with respect to the previous rejection, under 35 USC 112, second paragraph, to claims 1-5, 10-16 and 18, as being incomplete, have been considered. However,

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upon further consideration, the claims after being amended are still rejected with reasons set forth above in this Office Action.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (6:30-2:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuong Phu  
Primary Examiner  
Art Unit 2631

*Phuong Phu*  
Phuong Phu  
11/02/04

**PHUONG PHU**  
**PRIMARY EXAMINER**